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The present paper presents a discussion of certain dimensions of cognitive style that are subsumed under the theoretical formulation of cognitive control theory. An overview of cognitive-control theory is presented first. Second, the cognitive control principle of tolerance for unrealistic experience is then defined and the relevant literature is reviewed. In conclusion, research findings are evaluated and theoretical relationships between cognitive control principles and relatively enduring dispositions to behave in certain ways are discussed. (Author)

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The Definition of a Cognitive Control Principle: A Case of Diminishing Returns

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Introduction

The Personological Domain is directly concerned with research and development on the determiners and consequences of teacher traits and characteristics. Among the latter are various kinds of attitude, belief, knowledge, cognitive style and intellectual ability. The purpose of the present paper is to elaborate certain dimensions of cognitive style that are subsumed under the theoretical formulation of cognitive control theory. It is anticipated that the discussion will contribute substantially to the understanding of the relationship between a cognitive control principle and relatively enduring dispositions to behave in certain ways. It is hoped that cognitive controls will be viewed as one class of variables which cause a teacher or a pupil to respond better to one instructional procedure than another.

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The Definition of a Cognitive Control Principle: A Case of Diminishing Returns

Overview of Cognitive-Control Theory

Definition and Theory:

Cognitive controls are defined by Klein et al. (1959) as ego structures or stable organizational dispositions that regulate thought processes. In psychoanalytic terminology, they are characterized as secondary thought processes that produce consistency in a person's perceptual, memory and thinking activities. Cognitive controls are assumed to be relatively "conflict-free" mechanisms and are thought to reflect an individual's customary modes of facing reality.

A cognitive control is thought to unfold in a behavioral sequence that is integrated by an intention or aim, e.g., to judge size in an experiment. Cognitive controls are considered to be the organizing principles that guide the interplay of perceptual, memory and motoric processes and the determiners of cognitive responses. A given cognitive control is thought to operate within a limited range of situations which pose similar adaptive requirements. Thus the ability to generalize behaviors particular to a given control are dependent upon the requirements of a given situation. Klein et al. (1959) assume that there are a finite number of cognitive controls and that they are idiosyncratically organized within each individual. It is assumed that cognitive controls interact, serving alternately as an intermediary, catalyst or initiator of behavioral tendencies.

According to Klein (1954), the psychoanalytic concept of delay of gratification is conceived as providing a rationale for the development of a cognitive control. Klein postulates that all ego structures, including cognitive controls, develop from an undifferentiated matrix of secondary processes. "In the course of development and through repeated environmental encounters, enforced delays of gratification are internalized as controls" (Gardner et al. 1959, pp. 12-13). The individual learns that attempts at immediate gratification are usually unsuccessful and bring recriminations in the form of punishment or loss of parental approval. He gradually learns that, by delaying impulse expression and seeking socially approved outlets, he both achieves partial gratification and wins parental approval. Cognitive controls originate in part from such drive-environment interactions and are thought to develop a certain degree of autonomy or independence from drives. They can be viewed as enabling the individual to attain some degree of autonomy from both inner drives and external forces (Rapaport, 1958).

Levels of Personality Organization:

"Behavior is determined both by structures specifically linked with certain response experiences (e.g., in perception, retinal gradients determine experiences of texture or slant) and by superordinate structures which may temporarily draft a particular subsystem to their service" (Gardner et al. 1959, p.7). Cognitive controls are conceived to be a class of such superordinate structures. The more specific kinds of structures, e.g., retinal gradients or even given concepts like "blue" or "round", often function relatively autonomously from the superordinate structures as might be the case in certain simple psychophysical tasks. Cognitive controls are,

therefore, not the only or necessarily the crucial determinants of behavior. The relative autonomy of lower-order systems limits the influence of cognitive controls on responses.

Cognitive Controls and Drives:

Using the framework of psychoanalytic ego psychology, Gardner et al. (1959, p. 3) thought that "the organism must not only bring needs, impulses and wishes into continual harmony; it must also resolve the many independent claims of reality". While the individual is concerned with satisfying various needs or drives, his behavior is also guided by the reality principle, that is, he achieves satisfaction of a need or drive, but without sacrificing effective adaptation to external conditions. Cognitive controls are defined by Klein et al. (1959) as the regulating tendencies that determine how an individual will assume a response which will reconcile his needs or intentions to external reality--the particular requirements of a task or situation. This theoretical analysis implies that cognitive controls are an important class of variables that should be considered in attempts to demonstrate the effect of a need on perception or the effects of stress on performance. Studies by Lazarus, Baker, Broverman and Mayer (1957), Hardison and Purcell (1959) and, particularly, Klein (1954) have demonstrated that a cognitive control can modulate the effect of a need on behavior.

Cognitive Controls and Defense Mechanisms:

Cognitive controls act to regulate and modify drive discharge. Thus, the function of cognitive controls is simular to that of psychic defense mechanisms. Klein (1959) postulated that psychic defense mechanisms and

cognitive controls were not separate sets of structures, that they both utilized the "ego apparatus" and that they both facilitated or inhibited the satisfaction of a need. Another way of viewing the relationship between psychic defense mechanisms and cognitive controls is to assume that cognitive controls are ego structures which may be utilized for defensive purposes by other superordinate structures, e.g., higher-order cognitive processes.

A number of cognitive controls are assumed to coexist within a personality. The possibility arises that the composition of controls within a person may itself have consequences for behavior that cannot be deduced from the individual controls alone. These arrangements of controls are designated cognitive styles. The importance of style is that it may provide a basis for predicting behaviors that cannot be inferred from the characteristics of individual controls.

The subsequent research undertaken by Klein and his associates has dealt with defining the classes of adaptive situations to which the different controls and styles seem to be linked. Eventually, it is hoped, the component processes and structures involved in them will be specified. To date the behavioral, phenomenological and adaptive outcomes have been demonstrated.

Tolerance for Unrealistic Experience: Definition and Research

The cognitive control principle of tolerance (vs. intolerance) for unrealistic experiences is one control principle with a relatively long and varied history of experimentation. Tolerance for unrealistic experience, or tolerance for instability as it was first named, implies acceptance of experiences which do not agree with what is known to be "true", while intolerance

implies resistance to such precepts or cognitive experiences. Thus, this dimension refers to how an individual organizes experiences that violate his normal assumptions of reality.

In 1951 Klein and Schlesinger reported a study in which range of apparent movement was successfully predicted from ratings of Rorschach protocols. Since both the Rorschach and Apparent Movement situations seemed to measure the degree to which reality testing rigidly requires the holding on to forms as they are known to be, it was presumed that one principle of control applied to both situations. Since 1951 a variety of conditions under this control principle have been tested. The experiments chosen have all investigated the variety of responses made when the "facts" of a situation have defied what past experience favors and when a new and creative interpretation would be the more apt response. "We have been interested in the ease with which people allow such organizations to happen and in qualities of adjustment that are linked to difficulties in making these transformations. Intolerance for instability is reflected even in the manner that memory shapes recorded events. For instance, as a person who is intolerant of instability to remember a story replete with internal contradictors. His recall will show elisions that reduce incongruences; selection occurs in the direction of more ordered (not necessarily more simplified) recall." (Klein, 1953).

The first study reported on the control principle of tolerance towards instability was an attempt to identify idiosyncratic modes of perceiving that operate in Rorschach responses. "The simplest assumption in approaching processes underlying Rorschach responses is that they do not require a psychology of their own, that Rorschach responses reveal ego processes no differ-

ent in kind from those appearing in other, apparently quite different, situations which require adaptive response" (Klein, 1950, p. 290). The Rorschach test and a test of apparent movement were seen to offer quite different situations in which to test the generality of the hypothesized perceptual attitudes. In the Rorschach a person sees a form which he knows to be an inkblot. He is asked to say not what it is, but what it might be, to organize it differently from what he knows it to be.

A Rorschach inkblot is also unstable. The adaptive task defined by the experimenter is open-ended; he offers no rules of interpretation to guide the subject in moulding his responses or in chosing among equally plausible alternatives. If the instructions are taken literally, any communicable response is acceptable. The subject must decide how far he will depart from the 'known', most certain, least contestable, identity of the stimulus and allow himself to experience the blot's myriad organizational possibilities.

The range of apparent movement is an index of a person's readiness to accept a compromise solution to a task in visual organization. The subject is fully aware that the stimuli producing apparent movement are actually stationary as it has been explained and demonstrated to him. It is an indication of how much tempering he permits himself with things as he knows them to be for the sake of expedience or comfort, or, more generally, how well he can tolerate an unstable or ambiguous state as a solution to a perceptual problem. It tells the degree to which one's personal stability requires that things be maintained as they are known to be, to what extent reality testing demands the stability and immobility of known stationary forms.

The perceptual attitude involved is, on the one hand, resistance to instability or "form-boundedness", referring to those with low tolerance for the ambiguous state or compromise solution, and, on the other hand, tolerance for instability or "form-lability", referring to those who accept the compromise more freely. In the Rorschach, people vary widely in how easily they can accept the task and in how freely they "project" fantasys, or temper with reality. The question behind this experiment was: Will people who differ widely in this respect on the Rorschach also differ predictably in the experiencing of apparent motion?

The apparent-movement and Rorschach situations bring about non-confirmable experiences in different ways. In the apparent-movement test, perceptions consonant with what the subject accepts as 'real' are made increasingly untenable by physical variations in the conditions of stimulation. The physical changes coerce experience away from one that is in harmony with environmental fact, towards one that is not. In the Rorschach, the subject's tolerance for, and modes of dealing with, equivocality are put to the test by many equally legitimate response possibilities, no one of them more 'correct' than another, and by mild pressure implicit in the instruction "What might this be?", to perceive more than the literal givens of the blots.

In the 1951 study, the Rorschach test was used as the criterion situation. In subsequent experiments, the apparent movement test was used as the criterion measure. This change was shown to be more desirable on the basis of the primary analysis. It was found that once groups were formed on the basis of the apparent movement response, the corresponding Rorschach protocols were more similar within the groups. Dividing the groups first on the basis of Rorschach criteria produced more heterogeneous results--

both in the Rorschach and apparent movement scores.

The subjects for all of Klein's experiments came from a midwestern psychiatric hospital. In not one experiment were there found significant differences for any of the experimental variables when the subjects were divided on the basis of sex, age or patient vs. employee status; thus, these were ignored in the analyses of the data.

The most important measure of tolerance of unrealistic experiences is the apparent movement test. The apparatus and stimuli are explained in Klein, 1962, p. 43. The range of apparent movement is a complicated datum. The range offers a rough representation of the degree to which the subject allows himself to compromise with the known. The rapid alternation of the pairs of stimuli creates an illusion of motion. The range of alternation rates over which "motion" persists indicates the amount of tolerance of an unrealistic experience. If the subject understands that he is actually seeing two stationary figures appearing alternately, he is confronted with an issue of "tolerance". As the alternation rate increases, each subject reaches a point at which he compromises with his knowledge of "reality" and makes his perception consistent with the paradoxical movement. The criterion measure of tolerance for unrealistic experiences was the mean range of apparent movement in cycles per second of the fifteen trials with the three pairs of figures.

Klein (1962) outlines three experiments which were correlated with the apparent movement data. The reversible-figure test figures produce unequivocal experiences which invite resolution in the sense described for the apparent movement test, except that the experimenter does not manipulate the tenability of an experience by varying the stimulation. As in the

Rorschach test, instability is inherent in the figures, neither one of the two possible organizations is more correct than the other. The scores used were the number of reversals and conventional-phase time for each figure in each condition. The scores were T-scaled to enable correlational analysis with the apparent movement scores.

A positive relationship between mean range of apparent movement and the number of reversals was found. The results suggested that perception of reversal reflects tolerance for unrealistic experiences in the sense described.

A second experiment on tolerance for unrealistic experiences was induced by aniseikonic lenses. The type of lens used induces a decided tilt in the vertical-frontal plane. There are sharp individual differences in the speed with which the subject recognizes distortion, which seems to be an appropriate measure of tolerance for unrealistic experiences. Thus, the intolerant subjects would be expected to maintain customary rectinlinearity of the laboratory by attending to uniocular cues that help maintain it. Tolerant subjects would not only recognize the tilt earlier, but would experience a greated amount of tilt as measured by the adjusting of a vertical rod.

The results showed that there was a significant correlation between mean range of apparent movement and recognition time. The r between mean range of apparent movement and mean degrees of distortion was in the expected direction but did not reach significance. Klein reports two interesting individual differences. Both of these subjects denied seeing change in the visual field while wearing the lenses, yet showed considerable deviation in their adjustments of the rod to the vertical. One of these subjects was

near the intolerant extreme of the distortion of ranges of apparent movement, the other near the most tolerant in terms of this criterion measure. Klein concludes that degree of awareness of the changes induced by the lenses is not correlated in any simple fashion with tolerance for unrealistic experiences.

The Rorschach test was the third experimental condition used. Following the 1951 study, the protocols were judged for intolerance on the basis of: concern over the reasonableness of responses; literalness of approach; a tendency to report only clearly dileneated, easily confirmable forms and meanings; avoidance of associative elaboration. Contrasting properties characterized the tolerant approach.

In the earlier (1951) study, standard signs were used to score the Rorschach. Klein at that time found that the number of responses given was the most differentiating factor. Tolerant groups gave the most responses, had the higher F%, and showed more M responses. However, the ability to see movement in the Rorschach figures did not directly correlate with the ability to see apparent motion. While the number of M's was higher for the tolerant group, the percentage was not. On the basis of these findings, Klein's later study (1962) discerned the subject's attitude toward his responses rather than used the standard signs to judge tolerance.

The later findings showed that the main difference between the tolerants and intolerants is the freedom the subject permits himself of tampering with the reality of the card. The tolerant subject accepts the task, refrains from critical comments and expression of dissatisfaction with the task, gives alternative conceptions for a given area, and draws upon his associations to give meaning to the blots. He is able to take a more "as if" attitude than the intolerant subject.

In both studies the biserial r between the tolerant and intolerant groups formed by the Rorschach sorting and the criterion score was significant. In confirmation of the earlier study, tolerance for unrealistic experience is reflected both in the Rorschach test and in apparent movement responses.

Klein summarizes the behavioral aspects of this dimensions as: "Intolerant subjects seemed engaged in continual efforts to make their experience conform to the actual state of affairs in the external world. Tolerant subjects seemed in equally adequate contact with external reality, but were much more relaxed in their acceptance of both ideas and perceptual organizations that required deviation from the conventional. Thus, they were able to show more direct evidence of the influence of momentary feeling states on their experiencing of the external world." (Gardner et al, 1959, p. 93-94).

Other experimenters have found correlations between tests used by Klein and further experimental conditions. Kaplan (1959) in a study predicting memory behavior from tolerance of instability found a contingency between the aniseikonic lens effect and recall of two kinds of unstable story elements. Using the aniseikonic lenses as a criterion measure, he found that subjects more accepting of the induced tilt recalled contradictory elements of a story. His study suggests that material for later recall may be affected by the subject's manner of dealing with combinations that defy logic or realism.

However, the use of a story containing contradictory elements is closely related to a vast area of research generally designated "response to ambiguity. Although many of these experimenters allude to Klein's work (and he to theirs),

the titles of the articles suggest that they are actually dealing with either a variant of this principle or a larger process. Tolerance and intolerance for ambiguity, Klein suggests, is related. However, in 1962, Klein concluded that the relationship between tol nce for unrealistic experience and tolerance for ambiguity needs to be explored. A brief survey of a few studies demonstrating similar behavioral phenomenon as that of Klein's work will point out the differences and similarities as well as the theoretical problems involved.

One of the more closely related studies in this category is that of Martin (1953-54). Using the aniseikonic lenses as one of his experimental measures, he found that individual differences in response to ambiguous social situations were related to acceptance of the tilt phenomenon. The Vigotsky blocks were presented to each subject with the instruction of "figure out what is to be done with these and then go ahead and do it". Two other ambiguous inter-personal situations were used. One was an instruction booklet in which the S read the directions for solving the problem of describing the consequences a new invention would have upon the physical and social environment. Tolerance for ambiguity is measured by how many pages of the booklet were read before the subject solved the problem. The other situation was to ask the subject to describe what kind of person he is. The score was the number of questions asked to clarify the problem. Martin theorizes that the adaptive task similar to all the experimental problems is one of the "constancy" phenomenon. The person who tends to suppress his own immediate sensation in an attempt to maintain perceptual constancy and predictability may also be more concerned about reducing the ambiguity of the interpersonal situations by seeking clarification from the experimenter.

The results of his study showed that subjects who asked many questions in the interpersonal situations tended to take a longer time to see the illusion and saw it to a lesser magnitude than subjects who asked only a few questions.

Another study done under the heading of stimulus ambiguity was undertaken by Loomis and Moskowitz. Similar to Kaplan, they read the subjects an ambiguous character sketch. The story contained an equal number of statements about positive and negative character traits. Immediately following the reading of the story, the subjects viewed a gradually-changing picture series of ten slides. The series began with a well-structured, clearly identifiable object. Maximal ambiguity was in the middle. The last slide returned to the original object. A third experimental task was the Stroop Color Word Test (Stroop, 1935).

The results of the study showed that subjects who had the least difficulty in meeting the adaptive requirement of the Color Word Test more frequently attempted to reconcile the overlapping stimulus elements in the other two situations. While both groups recognized the ambiguities in the story, differences were found in attempts to reconcile the differences. Loomis and Moskowitz related their findings to the cognitive control principle of constricted vs. flexible control. Thus, their explanation of the behavior demonstrated on the gradually changing picture series was a refutation of the commonly found tendency to perseverate. Flexible subjects were found to report more overlapping cues on a single slide, to recognize the overlapping stimulus configuration, but were not found to show cognitive rigidity as measured by perseveration.

The study concludes that attempts to clarify further the relationship between control style and the handling of ambiguity must be met with more

precisely defined "stimulus ambiguity" and the conditions under which a given stimulus may be considered to be ambiguous needs to be more rigorously specifie

One of the most extensive studies undertaken in this area is that of Else Frenkel-Brunswik. The original study was an attempt to define the personality characteristics of ethnically prejudiced individuals. Starting from the observation that some of her subjects were able to tolerate emotional ambiguities better than others, she became involved in the question of whether this attitude of intolerance of more complex, conflicting or otherwise open structures extends beyond the emotional and social area to further include perceptual and cognitive aspects proper. This is a personality-centered approach which attempts to apply concepts and findings originating in the sphere of emotional ambivalence to experiments on perceptual ambiguity.

In order to reduce conflict and anxiety and to maintain stereotyped patterns, certain aspects of experience have to be kept out of awareness. Assumptions once made, no matter how faulty and out of keeping with reality because of a neglect of relevant aspects, are repeated over and over again and not corrected in the face of new evidence. These are the behavioral characteristics of the prejudiced person and of the person intolerant of ambiguity.

The same children used in the original study dealing with rigid adherence vs. disinclination to ethnic prejudice were tested in a variety of perceptual tasks. One experiment she used was to present a series of changing pictures. The first picture was of a dog. It was followed by a number of pictures representing transitional stages leading finally to the picture of a cat. At every stage the subjects were asked to identify the object on the given card. The results of the experiment showed that the prejudiced

group tended to hold on longer to the first objects and to respond more slowly to the changing stimuli. With internal conflict being as disturbing as it is in this group, there apparently developed a tendency to deny external ambiguity so long as such denial can be maintained. Persons with less severe underlying confusion, on the other hand, may be able to afford facing ambiguities openly. In this case, the total pattern is that of a broader integration of reality without shutting off parts of it, and thus a more flexible adaptation to varying circumstances.

A second experiment dealt with a progressive series of hues which were to be named. Again, the prejudiced subjects perseverated longer than the unprejudiced. The former conceive of fewer and cruder steps along the scale, or tend toward one-dimension rather than a more complex system of classificatio

A third experimental condition was provided by a study done by Rokeach on the same subjects. He used a Gestalt psychological thinking problem involving the manipulation of three jars. A mental set was first established by presenting the subjects with a series of problems which could be solved either by maintaining the original set or by using a more advantageous direct and simple method. A measure of rigidity was derived from the number of cases in which the established set was maintained and, thus, an inability demonstrated to restructure the field and to perceive the direct solution. The results presented by Rokeach indicate that the children scoring extremely high on ethnic prejudice solve the new problems more rigidly than those extremely low on prejudice.

Frenkel-Brunswik concludes that there is some indication of a prevalence of premature reduction of ambiguous cognitive patterns to certainty in the prejudiced subjects, as revealed by clinging to the familiar, or by the

superimposition of one or many distorting cliches upon stimuli which are not manageable in a more simple and stereotyped fashion. There is some indication that in the case of distinct intolerance of emotional ambivalence, one may as a rule be able to locate at least some aspects of intolerance of cognitive ambiguity although these may often be more apparent on a higher level than that of perception proper.

The individual intolerant of ambiguity tends to resort to "black and white" solutions and to arrive at premature closure as to valuative aspects often at the neglect of reality. He is disposed to think in rigid categories and to use dichotomies rather than continue in his evaluations. The multiple complexities of strange situations are approached and comprehended with concepts of unqualified and unrealistic simplicity. Preferably, the ambiguous or unstructured situation is avoided since it usually precipitates unpleasant emotional reaction ranging from uneasiness to anxiety. Intolerance of ambiguity may be manifested at the perceptual-cognitive-motor level and at the interpersonal or social level.

The problem of defining a class of behaviors related by a single cognitive control principle appears rather concrete when one reads the experimental evidence and rationale presented by Klein. However, as the behavioral description of the tasks are enlarged into generalities, the accuracy of the definition is diminished. Thus, although other studies have used the same tests as Klein used, the correlating tests have broadened the original class of behaviors. When using such complex tasks as the changing picture series, ambiguous character sketches and ambiguous interpersonal situations, it is easy to focus on one interpretation of the behavior without reference to other processes that may be simultaneously present. Only when the same test

is used in a variety of situations does it become apparent that the original class of behavior may not be an adequate explanation. To rigidly define the operation of a cognitive control principle, a more circumscribed task might be more appropriate

The diminishing accuracy of the definition is further increased by the use of complex tasks, as well as the extension to a wider field of tasks. For instance, the Rorschach cards do indeed measure the ability to go beyond the data given. But as they present a configuration of complex cues, overlapping stimuli, and an infinite amount of possible responses, they are ambiguous as well as unstable and unrealistic. It is not denied that one task may have the facility to elicit more than one kind of behavior or more than one kind of cognitive control. However, if the same criteria are used to measure each and the resultant behavioral description is put in the same terms, the specified principle can hardly be said to be delineated. Klein uses such terms as "ambiguous" and"unstable" to describe both the Rorschach test and the apparent motion test. Unfortunately, he does not describe tolerance for unrealistic experience in more specific terms. While the criteria he used did lead to the predicted groupings, the description is so similar to that used in other studies investigating rigid thinking, prejudice, constriction and tolerance for ambiguity that confusion results. To define tolerance for unrealistic experiences, then, it might be well to use a set of terms that are not used in a related but supposedly differentiated area. Further, it might be suggested that only those tasks which are experimentally manipulatable be used. This would enable operational definitions to be less confusing.

The issue which the related studies have raised is the relation of tolerance of instability and unrealistic experience to tolerance of ambiguity. Klein's 1951 study implicitly demonstrates a possible explanation. When using the Rorschach test as the criterion measure, the group was found to be more heterogeneous with respect to Rorschach characteristics as well as apparent movement scores. Only after the groups were divided according to apparent motion scores were the Rorschach results more clearly delineated. This suggests that a person must be tolerant of unrealistic experience must be tolerant of ambiguity but that the reciprocal is not always true.

Thus, the ability to use flexible thinking, of changing set, and the other characteristics outlined by Frenkel-Brunswik of the unprejudiced person are requisite to tolerance for unrealistic experience. The extensive experimentation on rigidity suggests that it is a certain process that underlies this cognitive control principle. It may well be asked, then, whether studies extending the area of tolerance of instability into interpersonal situations are demonstrating the more general cognitive control. The problem is that the "hope" of Klein to find the processes underlying the cognitive structures has not been realized. Tolerance of ambiguity, rigidity and constricted control may be the more general and pervasive processes. Tolerance for unrealistic experiences would, then, be a variant of these.

However, the more general problem suggested by these studies is the relation of personality characteristics to perceptual characteristics. It is both Klein's and Frenkel-Brunswik's belief that the two are inseparable. Both demonstrate that personality is assessed from behavioral criteria; perception is a part of this behavior. It seemed reasonable to suppose that the concepts and processes involved are interrelated. However, one example will expose the difficulties.

The most extreme position that any behavior is a sample of the total personality underlies the "whole" personality approach. Thus, the inability to change set, the adherence to the original cue, can be put in such general terms that it can be likened to the abstract vs. concrete attitude as posited by Goldstein. The concrete attitude is realistic. The abstract attitude necessitates the ability to detach our ego from the outer world, to shift reflectively from one aspect of the situation to another, to hold in mind simultaneously various aspects, and to abstract common properties reflectively. All of these can be said to be involved when one is able to "tolerate an unrealistic experience".

The problem is that as the generality increases, the explanation of a particular behavioral act diminishes. There is nothing inherently bad about generality; it just does't appear useful in all contexts. The idea of cognitive control has been demonstrated to be theoretically sound. The evidence presented demonstrates the problems raised in experimental verification. Without a sound footing and understanding of the processes which underlie each cognitive control, the phenomenological area must be more carefully selected. The rationale must provide a reasonable bridge from one conditional task to another. Ambiguous stimuli do not all involve the ability to tolerate unreality. A clear definition of the behaviors compelled by the task must differentiate those that do and do not elicit such abilities. Terms used in one area of research such as "rigidity" should be avoided.

Most important of all is an understanding of the difference between correlated and similar. Although two tests correlate, the answer to the essential question must still be ascertained. Is this a cause and effect relationship? Will a third variable explain the relation? Are the tests

measuring the same thing? Thus, while tests ranging from aniseikonic lenses to Rorschach cards to ambiguous interpersonal situations to arithmetic problems all correlate, the basic question remains. Klein has done well to avoid the generality that his admirers sought. However, even his factor analysis demonstrates the difficulty of choosing related items.

Although the research has grown from theory, although it appears plausible that individual differences in the ability to tolerate unrealistic experiences are pervasive through a variety of behavioral tasks, the more fruitful attack would appear to be to clearly delineate the principle before demonstrating its generality. The original definition of this control principle states that it is the ability to accept experiences which do not agree with what one knows to be true. It is unfortunate that the conciseness and specificity of this definition is not pervasive throughout the experimental evidence.

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800 ABSTRACT

801 The present paper presents a discussion of certain dimensions of
802 cognitive style that are subsumed under the thoretical formulation
803 of cognitive control theory. First, an overview of cognitive-
804 control theory is presented. Second, the cognitive control principle
805 of tolerance for unrealistic experience is defined and the relevant
806 literature is reviewed. In conclusion, research findings are
807 evaluated and theoretical relationships between cognitive
808 control principles and relatively enduring dispositions to behave
809 in certain ways are discussed.

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